Amendments to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently amended) A method for increasing the traffic handling performance of an elevator driven by a drive motor having a pre-designed power required to move the elevator according to a design velocity profile when there is a full load on the drive motor, the method comprising:

measuring the actual load in the elevator for a particular trip;

determining if the actual load represents a partial load on the drive motor;

calculating an optimized velocity profile for the trip, the optimized velocity profile being a function of the pre-designed power of the drive motor and the actual load; and

programming the drive motor to execute the optimized velocity profile for the trip, wherein the optimized velocity profile has a maximum velocity greater than the maximum velocity of the design velocity profile.

2-3. (Canceled)

4. (Original) The method according to claim 1, wherein the optimized velocity profile has an acceleration rate greater than the acceleration rate of the design velocity profile.

5. (Original) The method according to claim 1, wherein the optimized velocity profile has a jerk rate greater than the jerk rate of the design velocity profile.

6-7. (Canceled)

8. (Currently amended) An apparatus for increasing the traffic handling performance of an elevator driven by a drive motor having a pre-designed power required to move the elevator according to a design velocity profile when there is a full load on the drive motor, the method comprising:

means for measuring the actual load in the elevator for a particular trip;

means for determining if the actual load represents a partial load on the drive motor;

means for calculating an optimized velocity profile for the trip, the optimized velocity

profile being a function of the pre-designed power of the drive motor and the actual load; and

    means for programming the drive motor to execute the optimized velocity profile for the trip<u>;</u>

    <u>wherein the optimized velocity profile has a maximum velocity greater than the maximum velocity of the design velocity profile.</u>

    9-10. (Canceled)

    11. (Original) The apparatus according to claim 8, wherein the optimized velocity profile has an acceleration rate greater than the acceleration rate of the design velocity profile.

    12. (Original) The method according to claim 8, wherein the optimized velocity profile has a jerk rate greater than the jerk rate of the design velocity profile.

    13-14. (Canceled)

    15. (Original) An apparatus for increasing the traffic handling performance of an elevator driven by a drive motor having a pre-designed power required to move the elevator according to a design velocity profile when there is a full load on the drive motor, <u>wherein the optimized velocity profile has a maximum velocity greater than the maximum velocity of the design velocity profile</u>, the method comprising:

    a load weighing component for measuring the actual load in the elevator for a particular trip; and

    a controller component including:

    (a) a load determining unit for receiving information from the load weighing component and determining if the actual load represents a partial load on the drive motor;

    (b) a calculating unit for generating an optimized velocity profile for the trip, the optimized velocity profile being a function of the pre-designed power of the drive motor and the actual load; and

    (c) a programming unit for programming the drive motor to execute the optimized velocity profile for the trip.

    16. (Canceled)

17. (Currently amended) The apparatus according to claim 15 ~~16~~, wherein the controller further comprises a comparator unit for comparing (i) <u>an optimized velocity attainable for the actual load;</u> ~~VELopt,~~ (ii) a maximum velocity attainable for the distance of the trip; and (iii) a maximum velocity attainable with the mechanical equipment of the system, and the programming unit programs the drive motor to execute a velocity profile utilizing the lowest velocity from said comparison.

18. (Original) A method for increasing the traffic handling performance of an elevator driven by a drive motor having a pre-designed maximum available torque, the method comprising:

measuring the actual load within the car for a particular trip;

modeling a range of velocity profiles based on the actual load and information for the particular trip<u>, wherein one of the velocity profiles is an optimized velocity profile having a maximum velocity greater than the maximum velocity of the design velocity profile</u>;

calculating the resulting torque demand and travel time for each profile; and

selecting the velocity profile with the shortest travel time for the trip and with a torque demand that does not exceed the maximum available torque of the drive motor.

19. (Original) The method according to claim 18, further comprising selecting the velocity profile having acceleration/jerk rates the do not impose undue discomfort on the passengers for the trip.

20. (Original) The method according to claim 19, further comprising selecting a velocity profile that is within the mechanical safety limitations of the system.